



## SEQUENCE LISTING

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&lt;110&gt; Blatt, Michael

Leyman, Barbara

&lt;120&gt; Protein Involved in Absciscic Acid Signalling

&lt;130&gt; 2186PB-1

&lt;140&gt; 09/509,738

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&lt;170&gt; PatentIn version 3.0

&lt;210&gt; 1

&lt;211&gt; 1205

&lt;212&gt; DNA

&lt;213&gt; Nicotiana tabacum

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (18)..(917)

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gcc aaa ttc atc aaa gtt cgt ctc gaa gcc tta gac aga tca aat gca Ala Lys Phe Ile Lys Val Arg Leu Glu Ala Leu Asp Arg Ser Asn Ala 95 100 105			338
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acg aga act tca gtt gtg aac gga tta agg aag aaa ctt caa gag tca Thr Arg Thr Ser Val Val Asn Gly Leu Arg Lys Lys Leu Gln Glu Ser 125 130 135			434
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gtt atg gaa att caa gaa agg cat gaa gct gtg aag gaa ttg gag agg Val Met Glu Ile Gln Glu Arg His Glu Ala Val Lys Glu Leu Glu Arg 205 210 215			674
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aag cac cag aag aac act aga aaa tgg act tgt ttt gct att att ctt			866

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 Leu Leu Ile Ile Ile Leu Val Val Val Leu Ser Ile Gln Pro Trp Lys  
 285 290 295  
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 Lys  
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 Lys Gly Leu Glu Lys Ile Tyr Ser Gln Leu Gln Ser Ser His Glu Lys  
 50 55 60  
 Ser Lys Thr Leu His Asn Ala Lys Ala Val Lys Asp Leu Arg Ser Asn  
 65 70 75 80  
 Met Asp Asn Asp Val Ser Met Ala Leu Lys Lys Ala Lys Phe Ile Lys  
 85 90 95  
 Val Arg Leu Glu Ala Leu Asp Arg Ser Asn Ala Ala Asn Arg Ser Leu  
 100 105 110

Pro Gly Cys Gly Pro Gly Ser Ser Ser Asp Arg Thr Arg Thr Ser Val  
 115 120 125

Val Asn Gly Leu Arg Lys Lys Leu Gln Glu Ser Met Asn Gln Phe Asn  
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Glu Leu Arg Gln Lys Met Ala Ser Glu Tyr Arg Glu Thr Val Gln Arg  
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Arg Tyr Tyr Thr Val Thr Gly Glu Asn Pro Asp Glu Ala Val Leu Asp  
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Thr Leu Ile Ser Thr Gly Gln Ser Glu Thr Phe Leu Gln Lys Ala Ile  
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Gln Glu Gln Gly Arg Gly Gln Val Met Asp Thr Val Met Glu Ile Gln  
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Glu Arg His Glu Ala Val Lys Glu Leu Glu Arg Asn Leu Lys Glu Leu  
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His Gln Val Phe Leu Asp Met Ala Val Leu Val Glu Ser Gln Gly Ala  
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Gln Leu Asp Asp Ile Glu Ser Gln Val Asn Arg Ala Asn Ser Phe Val  
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Arg Gly Gly Ala Gln Gln Leu Gln Val Ala Arg Lys His Gln Lys Asn  
 260 265 270

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<222> (77)..(991)

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Arg Ser Gly Glu Pro Ser Pro Arg Arg Asp Val Ala Gly Gly Gly Asp	
15 20 25	
gga gtt cag atg gcg aat ccc gcg gga tca acc ggt ggt gtg aac ctc	208
Gly Val Gln Met Ala Asn Pro Ala Gly Ser Thr Gly Gly Val Asn Leu	
30 35 40	
gac aag ttc ttc gaa gat gtt gaa tct gtg aaa gaa gag cta aag gag	256
Asp Lys Phe Phe Glu Asp Val Glu Ser Val Lys Glu Glu Leu Lys Glu	
45 50 55 60	
cta gat cgg ctc aac gaa aca ctc tct tca tgt cac gag cag agc aag	304
Leu Asp Arg Leu Asn Glu Thr Leu Ser Ser Cys His Glu Gln Ser Lys	
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acg ctt cac aat gct aaa gcc gtt aaa gat ctc cgg tct aaa atg gac	352
Thr Leu His Asn Ala Lys Ala Val Lys Asp Leu Arg Ser Lys Met Asp	
80 85 90	
ggt gac gtt gga gtc gcg ttg aag aag gcg aag atg att aaa gtt aaa	400
Gly Asp Val Gly Val Ala Leu Lys Lys Ala Lys Met Ile Lys Val Lys	
95 100 105	
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Leu Glu Ala Leu Asp Arg Ala Asn Ala Ala Asn Arg Ser Leu Pro Gly	
110 115 120	
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Cys Gly Pro Gly Ser Ser Ser Asp Arg Thr Arg Thr Ser Val Leu Asn	
125 130 135 140	
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145 150 155	
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160 165 170	
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His Asp Arg Val Lys	Asp Ile Glu Lys Asn	Leu Arg Glu Leu His Gln	
	225	230 235	
gtg ttt cta gac atg	gcc gtg ctg gta gag	cac cag gga gct cag ctt	832
Val Phe Leu Asp Met	Ala Val Leu Val Glu	His Gln Gly Ala Gln Leu	
	240	245 250	
gat gac atc gag agt	cat gtg ggt cga gct	agc tcc ttt atc aga ggc	880
Asp Asp Ile Glu Ser	His Val Gly Arg Ala	Ser Ser Phe Ile Arg Gly	
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gga act gac cag cta	caa acc gct cgg gtt	tac cag aag aac acg cga	928
Gly Thr Asp Gln Leu	Gln Thr Ala Arg Val	Tyr Gln Lys Asn Thr Arg	
	270	275 280	
aaa tgg aca tgt att	gcc att att att ctc	atc atc atc ata act gtt	976
Lys Trp Thr Cys Ile	Ala Ile Ile Ile Leu	Ile Ile Ile Ile Thr Val	
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Val Val Leu Ala Val			
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gctggtttgt tgtaaatctc	ccgtttatctt ggtttttgtg	aaagaattta aaatgtgggt	1271
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 35 40 45  
 Glu Asp Val Glu Ser Val Lys Glu Glu Leu Lys Glu Leu Asp Arg Leu  
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 65 70 75 80  
 Ala Lys Ala Val Lys Asp Leu Arg Ser Lys Met Asp Gly Asp Val Gly  
 85 90 95  
 Val Ala Leu Lys Lys Ala Lys Met Ile Lys Val Lys Leu Glu Ala Leu  
 100 105 110  
 Asp Arg Ala Asn Ala Ala Asn Arg Ser Leu Pro Gly Cys Gly Pro Gly  
 115 120 125  
 Ser Ser Ser Asp Arg Thr Arg Thr Ser Val Leu Asn Gly Leu Arg Lys  
 130 135 140  
 Lys Leu Met Asp Ser Met Asp Ser Phe Asn Arg Leu Arg Glu Leu Ile  
 145 150 155 160  
 Ser Ser Glu Tyr Arg Glu Thr Val Gln Arg Arg Tyr Phe Thr Val Thr  
 165 170 175  
 Gly Glu Asn Pro Asp Glu Arg Thr Leu Asp Arg Leu Ile Ser Thr Gly  
 180 185 190  
 Glu Ser Glu Arg Phe Leu Gln Lys Ala Ile Gln Glu Gln Gly Arg Gly  
 195 200 205  
 Arg Val Leu Asp Thr Ile Asn Glu Ile Gln Glu Arg His Asp Arg Val  
 210 215 220  
 Lys Asp Ile Glu Lys Asn Leu Arg Glu Leu His Gln Val Phe Leu Asp  
 225 230 235 240  
 Met Ala Val Leu Val Glu His Gln Gly Ala Gln Leu Asp Asp Ile Glu  
 245 250 255

Ser His Val Gly Arg Ala Ser Ser Phe Ile Arg Gly Gly Thr Asp Gln  
 260 265 270

Leu Gln Thr Ala Arg Val Tyr Gln Lys Asn Thr Arg Lys Trp Thr Cys  
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Val  
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 Arg Leu Arg Ile Ile His Arg Asp Leu Lys Ala Ser Asn Ile Leu Leu  
 35 40 45  
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 Phe Pro Gly Ser Gln Asp Gln Ala Asn Thr Glu Arg Val Val Gly Thr  
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<213> *Ipomoea trifida*

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 20 25 30  
 Phe Arg Ile Ile His Arg Asp Leu Lys Ala Ser Asn Ile Leu Leu Asp  
 35 40 45

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<213> brassica campestris

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Leu Lys Pro Gly Asn Ile Leu Leu Asp Lys Tyr Met Ile Pro Lys Ile  
 35 40 45

Ser Asp Phe Gly Met Ala Arg Ile Phe Ala Arg Asp Glu Ile Gln Ala  
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Arg Thr Asp Asn Ala Val Gly Thr  
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<211> 72

<212> PRT

<213> Brassica oleracea

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 20 25 30

Arg Ile Ile His Arg Asp Met Lys Pro Ser Asn Ile Leu Leu Asp Lys  
 35 40 45

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Ser Lys Thr Gln Gly Ser Val Asn Thr Val Ser Ile Thr Ile Met Glu  
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Gly Arg  
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<213> *Ipomoea trifida*

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Lys His Pro Gly Phe Cys Leu Gly Ser Arg Pro Ala Asp Met Asp Ser  
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Thr Met Leu Asp Gly Arg  
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<213> brassica campestris

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20 25 30  
Lys Pro Pro Val Tyr Cys Leu Ile Ala Ser Tyr Tyr Ala Asn Asn Pro  
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Tyr Thr Trp Ser Val Ile Asp Ala Arg  
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<213> Brassica oleracea

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20 25 30  
Lys Pro Pro Ile Tyr Cys Leu Ile Thr Ser Tyr Tyr Ala Asn Asn Pro  
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Ser Ser Ser Arg Gln Phe Glu Asp Asp Glu Ser Trp Thr Val Asn Lys  
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<213> Nicotiana tabacum

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Leu	Leu	Val	Tyr	Asp	Ile	Ser	Arg	Lys	Thr	Thr	Phe	Glu	Asn	Ile	Gln
			20					25					30		
Cys	Trp	Leu	Asp	Glu	Leu	His	Thr	His	Cys	Asp	Thr	Thr	Val	Ala	Arg
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	50					55					60				
Ile	Tyr	Glu	Gly	Lys	Asn	Leu	Ala	Glu	Glu	Glu	Gly	Leu	Phe	Phe	Ile
65					70					75					80
Glu	Thr	Ser	Ala	Leu	Asp	Ser	Thr	Asn	Val	Lys	Gln	Pro	Leu	Lys	Leu
				85					90					95	
Ser	Ser	Ala	Gln	Ile	Tyr	Gln	Asn	Leu	Ser	Arg	Lys	Val	Leu	His	Ser
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 <213> Glycine max

<400> 15

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			20					25					30		
Arg	Trp	Leu	Asp	Glu	Leu	Lys	Thr	His	Cys	Asp	Thr	Thr	Val	Ala	Met
		35					40					45			
Met	Leu	Val	Gly	Asn	Lys	Cys	Asp	Leu	Glu	Asn	Ile	Arg	Ala	Val	Ser
	50					55					60				
Ile	Asp	Glu	Gly	Lys	Ser	Leu	Ala	Glu	Ala	Glu	Gly	Leu	Phe	Phe	Met
65					70					75					80
Glu	Thr	Ser	Ala	Leu	Asp	Ser	Thr	Asn	Val	Lys	Met	Ala	Phe	Glu	Met
				85					90					95	
Val	Ile	Arg	Glu	Ile	Tyr	Asn	Asn	Val	Ser	Arg	Lys	Val	Leu	Asn	Ser
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<212> PRT

<213> Lotus japonicus

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35 40 45  
Met Leu Val Gly Asn Lys Cys Asp Leu Glu Asn Ile Arg Ala Val Ser  
50 55 60  
Ile Glu Glu Gly Lys Ser Leu Ala Glu Ala Gln Gly Leu Phe Phe Met  
65 70 75 80  
Glu Thr Ser Ala Leu Asp Ser Thr Asn Val Arg Thr Ala Phe Glu Met  
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100 105 110  
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115 120

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<212> PRT

<213> Arabidopsis thaliana

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35 40 45  
Met Leu Val Gly Asn Lys Cys Asp Leu Glu Asn Ile Arg Ala Val Ser  
50 55 60

Val Glu Glu Gly Lys Ala Leu Ala Glu Glu Glu Gly Leu Phe Phe Val  
65 70 75 80  
Glu Thr Ser Ala Leu Asp Ser Thr Asn Val Lys Thr Ala Phe Glu Met ,  
85 90 95  
Val Ile Leu Asp Ile Tyr Asn Asn Val Ser Arg Lys Gln Leu Asn Ser  
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115 120

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<212> PRT

<213> Arabidopsis thaliana

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35 40 45  
Met Leu Ile Gly Asn Lys Cys Asp Leu Glu Ser Ile Arg Ala Val Ser  
50 55 60  
Val Glu Glu Gly Lys Ser Leu Ala Glu Ser Glu Gly Leu Phe Phe Met  
65 70 75 80  
Glu Thr Ser Ala Leu Asp Ser Thr Asn Val Lys Thr Ala Phe Glu Met  
85 90 95  
Val Ile Arg Glu Ile Tyr Ser Asn Ile Ser Arg Lys Gln Leu Asn Ser  
100 105 110  
Asp Ser Tyr Lys Glu Glu Leu Thr Val Asn Arg Val  
115 120

<210> 19

<211> 124

<212> PRT

<213> Nicotiana tabacum

<400> 19

Arg Phe Arg Ala Val Thr Ser Ala Tyr Tyr Arg Gly Ala Phe Gly Ala  
 1 5 10 15  
 Leu Val Val Tyr Asp Ile Thr Arg Arg Thr Thr Phe Asp Ser Ile Pro  
 20 25 30  
 Arg Trp Leu Asp Glu Leu Lys Thr His Ser Asp Thr Thr Val Ala Arg  
 35 40 45  
 Met Leu Val Gly Asn Lys Cys Asp Leu Asp Asn Ile Arg Ala Val Ser  
 50 55 60  
 Val Glu Glu Gly Lys Ser Leu Ala Glu Ser Glu Gly Met Phe Phe Met  
 65 70 75 80  
 Glu Thr Ser Ala Leu Asp Ala Thr Asn Val Asn Lys Ala Phe Asp Met  
 85 90 95  
 Val Ile Arg Glu Ile Tyr Asn Ser Val Ser Arg Lys Val Leu Asn Ser  
 100 105 110  
 Asp Ser Tyr Lys Ala Glu Leu Ser Val Asn Arg Val  
 115 120

<210> 20

<211> 168

<212> PRT

<213> Nicotiana tabacum

<400> 20

Leu Ile Phe Ser Leu Glu Thr Phe Leu Leu Val Leu Leu Phe Phe Thr  
 1 5 10 15  
 Leu Val Ser Ser Ser Ala Ser Glu Ile Phe Phe Glu Glu Ser Phe Asp  
 20 25 30  
 Asp Gly Trp Arg Ser Arg Trp Val Lys Ser Asp Trp Lys Ile Ser Glu  
 35 40 45  
 Gly Lys Ala Gly Ser Phe Lys His Thr Ala Gly Thr Trp Ala Gly Asp  
 50 55 60  
 Pro Asp Asp Lys Gly Ile His Thr Thr Asn Asp Ala Lys His Phe Ala  
 65 70 75 80  
 Val Ser Ala Lys Ile Pro Glu Phe Ser Asn Lys Asn Arg Thr Leu Val  
 85 90 95  
 Val Gln Tyr Ser Ile Lys Phe Glu Pro Asp Ile Glu Cys Gly Arg Gly  
 100 105 110  
 Tyr Ile Lys Leu Leu Ser Gly Tyr Val His Pro Lys Lys Phe Gly Gly  
 115 120 125



Asp Thr Pro Tyr Ser Phe Met Phe Gly Ala Asp Ile Cys Gly Ser Gln  
 130 135 140

Thr Lys Lys Pro Ser Cys Leu Tyr Phe Pro Tyr Pro Gly Ala Glu Leu  
 145 150 155 160

Pro Pro Leu Pro Glu Arg Asn Leu  
 165

<210> 21

<211> 165

<212> PRT

<213> Arabidopsis thaliana

<400> 21

Asn Lys Leu Ser Phe Phe Cys Phe Phe Phe Leu Val Ser Val Leu Thr  
 1 5 10 15

Leu Ala Pro Leu Ala Phe Ser Glu Ile Phe Leu Glu Glu His Phe Glu  
 20 25 30

Gly Gly Trp Lys Ser Arg Trp Val Leu Ser Asp Trp Lys Arg Asn Glu  
 35 40 45

Gly Lys Ala Gly Thr Phe Lys His Thr Ala Gly Lys Trp Pro Gly Asp  
 50 55 60

Pro Asp Asn Lys Gly Ile Gln Thr Tyr Asn Asp Ala Lys His Tyr Ala  
 65 70 75 80

Ile Ser Ala Lys Ile Pro Glu Phe Ser Asn Lys Asn Arg Thr Leu Val  
 85 90 95

Val Gln Tyr Ser Val Lys Ile Glu Gln Asp Ile Glu Cys Gly Gly Ala  
 100 105 110

Tyr Ile Lys Leu Leu Ser Gly Tyr Val Asn Gln Lys Gln Phe Gly Gly  
 115 120 125

Asp Thr Pro Tyr Ser Leu Met Phe Gly Pro Asp Ile Cys Gly Thr Gln  
 130 135 140

Thr Lys Lys Leu His Val Ile Val Ser Tyr Gln Gly Gln Asn Tyr Pro  
 145 150 155 160

Ile Lys Lys Asp Leu  
 165

<210> 22

<211> 82

<212> PRT

<213> *Nicotiana tabacum*

<400> 22

Gly Val Trp Met Glu Pro Asp Tyr Ala Lys Thr Ser Asp Ser Arg Lys  
1 5 10 15  
Cys Leu Pro Ile Gly Glu Ala Glu Lys Glu Ala Phe Glu Glu Ala Glu  
20 25 30  
Lys Val Arg Lys Ala Lys Glu Glu Glu Glu Ala Gln Arg Ala Arg Glu  
35 40 45  
Glu Gly Glu Arg Arg Lys Arg Glu Arg Gly Arg Asp Arg His Arg Asp  
50 55 60  
Arg Tyr Lys Lys Arg Tyr His His Asp Tyr Met Asp Asp Tyr His Asp  
65 70 75 80  
Glu Leu

<210> 23

<211> 85

<212> PRT

<213> *Arabidopsis thaliana*

<400> 23

Ile Leu Ile Cys Asp Asp Pro Ala Tyr Ala Arg Ser Ile Val Asp Asp  
1 5 10 15  
Tyr Phe Ala Gln His Arg Glu Ser Glu Lys Glu Leu Phe Ala Glu Ala  
20 25 30  
Glu Lys Glu Arg Lys Ala Arg Glu Asp Glu Glu Ala Arg Ile Ala Arg  
35 40 45  
Glu Glu Gly Glu Arg Arg Arg Lys Glu Arg Asp His Arg Tyr Gly Asp  
50 55 60  
Arg Arg Arg Arg Tyr Lys Arg Pro Asn Pro Arg Asp Tyr Met Asp Asp  
65 70 75 80  
Tyr His Asp Glu Leu  
85

<210> 24

<211> 310

<212> PRT

<213> Arabidopsis thaliana

<400> 24

Met	Asn	Asp	Leu	Met	Thr	Lys	Ser	Phe	Met	Ser	Tyr	Val	Asp	Leu	Lys	1	5	10	15
Lys	Ala	Ala	Met	Lys	Asp	Met	Glu	Ala	Gly	Pro	Asp	Phe	Asp	Leu	Glu	20	25	30	
Met	Ala	Ser	Thr	Lys	Ala	Asp	Lys	Met	Asp	Glu	Asn	Leu	Ser	Ser	Phe	35	40	45	
Leu	Glu	Glu	Ala	Glu	Tyr	Val	Lys	Ala	Glu	Met	Gly	Leu	Ile	Ser	Glu	50	55	60	
Thr	Leu	Ala	Arg	Ile	Glu	Gln	Tyr	His	Glu	Glu	Ser	Lys	Gly	Val	His	65	70	75	80
Lys	Ala	Glu	Ser	Val	Lys	Ser	Leu	Arg	Asn	Lys	Ile	Ser	Asn	Glu	Ile	85	90	95	
Val	Ser	Gly	Leu	Arg	Lys	Ala	Lys	Ser	Ile	Lys	Ser	Lys	Leu	Glu	Glu	100	105	110	
Met	Asp	Lys	Ala	Asn	Lys	Glu	Ile	Lys	Arg	Leu	Ser	Gly	Thr	Pro	Val	115	120	125	
Tyr	Arg	Ser	Arg	Thr	Ala	Val	Thr	Asn	Gly	Leu	Arg	Lys	Lys	Leu	Lys	130	135	140	
Glu	Val	Met	Met	Glu	Phe	Gln	Gly	Leu	Arg	Gln	Lys	Met	Met	Ser	Glu	145	150	155	160
Tyr	Lys	Glu	Thr	Val	Glu	Arg	Arg	Tyr	Phe	Thr	Val	Thr	Gly	Glu	His	165	170	175	
Ala	Asn	Asp	Glu	Met	Ile	Glu	Lys	Ile	Ile	Thr	Asp	Asn	Ala	Gly	Gly	180	185	190	
Glu	Glu	Phe	Leu	Thr	Arg	Ala	Ile	Gln	Glu	His	Gly	Lys	Gly	Lys	Val	195	200	205	
Leu	Glu	Thr	Val	Val	Glu	Ile	Gln	Asp	Arg	Tyr	Asp	Ala	Ala	Lys	Glu	210	215	220	
Ile	Glu	Lys	Ser	Leu	Leu	Glu	Leu	His	Gln	Val	Phe	Leu	Asp	Met	Ala	225	230	235	240
Val	Met	Val	Glu	Ser	Gln	Gly	Glu	Gln	Met	Asp	Glu	Ile	Glu	His	His	245	250	255	
Val	Ile	Asn	Ala	Ser	His	Tyr	Val	Ala	Asp	Gly	Ala	Asn	Glu	Leu	Lys	260	265	270	
Thr	Ala	Lys	Ser	His	Gln	Arg	Asn	Ser	Arg	Lys	Trp	Met	Cys	Ile	Gly	275	280	285	

Ile Ile Val Leu Leu Leu Ile Ile Leu Ile Val Val Ile Pro Ile Ile  
 290 295 300

Thr Ser Phe Ser Ser Ser  
 305 310

<210> 25

<211> 259

<212> PRT

<213> Homo sapiens

<400> 25

Met Asp Glu Phe Phe Glu Gln Val Glu Glu Ile Arg Gly Phe Ile Asp  
 1 5 10 15

Lys Ile Ala Glu Asn Val Glu Glu Val Lys Arg Lys His Ser Ala Ile  
 20 25 30

Leu Ala Ser Pro Asn Pro Asp Glu Lys Thr Lys Val Glu Leu Glu Glu  
 35 40 45

Leu Met Ser Asp Ile Lys Lys Thr Ala Asn Lys Val Arg Ser Lys Leu  
 50 55 60

Lys Ser Ile Glu Gln Ser Ile Glu Gln Glu Glu Gly Leu Asn Arg Ser  
 65 70 75 80

Ser Ala Asp Leu Arg Ile Arg Lys Thr Gln His Ser Thr Leu Ser Arg  
 85 90 95

Lys Phe Val Glu Val Met Ser Glu Tyr Asn Ala Thr Gln Ser Val Tyr  
 100 105 110

Arg Glu Arg Cys Lys Gly Arg Ile Gln Arg Gln Leu Glu Ile Thr Gly  
 115 120 125

Arg Thr Thr Thr Ser Glu Glu Leu Glu Asp Met Leu Glu Ser Gly Asn  
 130 135 140

Pro Ala Ile Phe Ala Ser Gly Ile Ile Met Asp Ser Ser Ile Ser Lys  
 145 150 155 160

Gln Ala Leu Ser Glu Ile Glu Thr Arg His Ser Glu Ile Ile Lys Leu  
 165 170 175

Glu Asn Ser Ile Arg Glu Leu His Asp Met Phe Met Asp Met Ala Met  
 180 185 190

Leu Val Glu Ser Gln Gly Glu Met Ile Asp Arg Ile Glu Tyr Asn Val  
 195 200 205

Glu His Ala Val Asp Tyr Val Glu Arg Ala Val Ser Asp Thr Lys Lys  
 210 215 220

Ala Val Lys Tyr Gln Ser Lys Ala Arg Arg Lys Lys Ile Met Ile Ile  
 225 230 235 240

Ile Cys Cys Val Ile Leu Gly Ile Val Ile Ala Ser Thr Val Gly Gly  
 245 250 255

Ile Phe Ala

<210> 26

<211> 288

<212> PRT

<213> Homo sapiens

<400> 26

Met Lys Asp Arg Thr Gln Val Leu Arg Thr Arg Arg Asn Ser Asp Asp  
 1 5 10 15

Lys Glu Glu Val Val His Val Asp Arg Asp His Phe Met Asp Glu Phe  
 20 25 30

Phe Glu Gln Glu Glu Ile Arg Gly Cys Ile Glu Lys Leu Ser Glu  
 35 40 45

Asp Val Glu Gln Val Lys Lys Gln His Ser Ala Ile Leu Ala Ala Pro  
 50 55 60

Asn Pro Asp Glu Arg Thr Lys Gln Glu Leu Glu Asp Leu Thr Ala Asp  
 65 70 75 80

Ile Lys Lys Thr Ala Asn Lys Val Arg Ser Lys Leu Lys Ala Ile Glu  
 85 90 95

Gln Ser Ile Glu Gln Glu Glu Gly Ser Thr Ala Pro Arg Pro Ile Leu  
 100 105 110

Arg Ile Arg Lys Thr Gln His Ser Thr Leu Ser Arg Lys Phe Val Glu  
 115 120 125

Val Met Thr Glu Tyr Asn Ala Thr Gln Ser Lys Tyr Arg Asp Arg Cys  
 130 135 140

Lys Asp Arg Ile Gln Arg Gln Leu Glu Ile Thr Gly Arg Thr Thr Thr  
 145 150 155 160

Asn Glu Glu Leu Glu Asp Met Leu Glu Ser Gly Lys Leu Pro Ile Phe  
 165 170 175

Thr Asp Asp Ile Lys Met Asp Ser Gln Met Thr Lys Gln Ala Leu Asn  
 180 185 190

Glu Ile Glu Thr Arg His Asn Glu Ile Ile Lys Leu Glu Thr Ser Ile  
 195 200 205

Arg Glu Leu His Asp Met Phe Val Asp Met Ala Met Leu Val Glu Ser  
 210 215 220

Gln Gly Glu Met Ile Asp Arg Ile Glu Tyr Asn Val Glu His Ser Val  
 225 230 235 240

Asp Tyr Val Glu Arg Ala Val Ser Asp Thr Lys Lys Ala Val Lys Tyr  
 245 250 255

Gln Ser Lys Ala Arg Arg Lys Lys Ile Ile Ile Ile Ile Cys Cys Val  
 260 265 270

Val Leu Gly Val Val Leu Ala Ser Ser Ile Gly Cys Thr Leu Gly Leu  
 275 280 285

<210> 27

<211> 291

<212> PRT

<213> Drosophila melanogaster

<400> 27

Met Thr Lys Asp Arg Leu Ala Ala Leu His Ala Ala Gln Ser Asp Asp  
 1 5 10 15

Glu Glu Glu Thr Glu Val Ala Val Asn Val Asp Gly His Asp Ser Tyr  
 20 25 30

Met Asp Asp Phe Phe Ala Gln Val Glu Glu Ile Arg Gly Met Ile Asp  
 35 40 45

Lys Val Gln Asp Asn Val Glu Glu Val Lys Lys Lys His Ser Ala Ile  
 50 55 60

Leu Ser Ala Pro Gln Thr Asp Glu Lys Thr Lys Gln Glu Leu Glu Asp  
 65 70 75 80

Leu Met Ala Asp Ile Lys Lys Asn Ala Asn Arg Val Arg Gly Lys Leu  
 85 90 95

Lys Gly Ile Glu Gln Asn Ile Glu Gln Glu Glu Gln Gln Asn Lys Ser  
 100 105 110

Ser Ala Asp Leu Arg Ile Arg Lys Thr Gln His Ser Thr Leu Ser Arg  
 115 120 125

Lys Phe Val Glu Val Met Thr Glu Tyr Asn Arg Thr Gln Thr Asp Tyr  
 130 135 140

Arg Glu Arg Cys Lys Gly Arg Ile Gln Arg Gln Leu Glu Ile Thr Gly  
 145 150 155 160

Arg Pro Thr Asn Asp Asp Glu Leu Glu Lys Met Leu Glu Glu Gly Asn  
 165 170 175

Ser Ser Val Phe Thr Gln Gly Ile Ile Met Glu Thr Gln Gln Ala Lys  
 180 185 190

Gln Thr Leu Ala Asp Ile Glu Ala Arg His Gln Asp Ile Met Lys Leu  
 195 200 205

Glu Thr Ser Ile Lys Glu Leu His Asp Met Phe Met Asp Met Ala Met  
 210 215 220

Leu Val Glu Ser Gln Gly Glu Met Ile Asp Arg Ile Glu Tyr His Val  
 225 230 235 240

Glu His Ala Met Asp Tyr Val Gln Thr Ala Thr Gln Asp Thr Lys Lys  
 245 250 255

Ala Leu Lys Tyr Gln Ser Lys Ala Arg Arg Lys Lys Ile Met Ile Leu  
 260 265 270

Ile Cys Leu Thr Val Leu Gly Ile Leu Ala Ala Ser Tyr Val Ser Ser  
 275 280 285

Tyr Phe Met  
 290

<210> 28

<211> 6

<212> PRT

<213> Nicotiana tabacum

<400> 28

Leu Gln Val Ala Arg Lys  
 1 5

<210> 29

<211> 6

<212> PRT

<213> Drosophila melanogaster

<400> 29

Thr Lys Lys Ala Leu Lys  
 1 5

<210> 30

<211> 6

<212> PRT

<213> Rattus sp.

<400> 30

Thr Lys Lys Ala Val Lys  
1 5

<210> 31

<211> 6

<212> PRT

<213> yeast sp.

<400> 31

Thr Asp Lys Ala Val Lys  
1 5

<210> 32

<211> 6

<212> PRT

<213> yeast sp.

<400> 32

Thr Asn Lys Ala Val Lys  
1 5

<210> 33

<211> 13

<212> PRT

<213> Nicotiana tabacum

<400> 33

Asp Gln Ser Asp Ser His Ala Ile Glu Met Gly Asp Ile  
1 5 10

<210> 34

<211> 5

<212> PRT



<213> Nicotiana tabacum

<400> 34

Gly Cys Gly Pro Gly  
1 5

<210> 35

<211> 25

<212> PRT

<213> Nicotiana tabacum

<400> 35

Leu Glu Arg Asn Leu Lys Glu Leu His Gln Val Phe Leu Asp Met Ala  
1 5 10 15

Val Leu Val Glu Ser Gln Gly Ala Gln  
20 25

<210> 36

<211> 25

<212> PRT

<213> Arabidopsis thaliana

<400> 36

Ile Glu Lys Ser Leu Leu Glu Leu His Gln Val Phe Leu Asp Met Ala  
1 5 10 15

Val Met Val Glu Ser Gln Gly Glu Gln  
20 25

<210> 37

<211> 25

<212> PRT

<213> Homo sapiens

<400> 37

Leu Glu Asn Ser Ile Arg Glu Leu His Asp Met Phe Met Asp Met Ala  
1 5 10 15

Met Leu Val Glu Ser Gln Gly Glu Met  
20 25

<210> 38

<211> 20

<212> PRT

<213> Nicotiana tabacum

<400> 38

Ile Ile Leu Leu Leu Ile Ile Ile Leu Val Val Val Leu Ser Ile Gln  
1 5 10 15

Pro Trp Lys Lys  
20

<210> 39

<211> 22

<212> PRT

<213> Arabidopsis thaliana

<400> 39

Ile Ile Val Leu Leu Leu Ile Ile Leu Ile Val Val Ile Pro Ile Ile  
1 5 10 15

Thr Ser Phe Ser Ser Ser  
20

<210> 40

<211> 21

<212> PRT

<213> Homo sapiens

<400> 40

Ile Ile Ile Cys Cys Val Ile Leu Gly Ile Val Ile Ala Ser Thr Val  
1 5 10 15

Gly Gly Ile Phe Ala  
20

<210> 41

<211> 20  
<212> DNA  
<213> Artificial sequence

<220>  
<221> misc\_feature  
<222> (1)..(20)  
<223> primer

<400> 41  
taatacgaact cactataggg

20

<210> 42  
<211> 17  
<212> DNA  
<213> Artificial sequence

<220>  
<221> misc\_feature  
<222> (1)..(17)  
<223> primer

<400> 42  
gtaaaacgac ggccagt

17

<210> 43  
<211> 19  
<212> DNA  
<213> Artificial sequence

<220>  
<221> misc\_feature

<222> (1)..(19)

<223> primer

<400> 43  
ggaaacagct atgaccatg

19

<210> 44

<211> 13

<212> PRT

<213> keyhole limpet haemocyanin

<400> 44

Cys Gly Pro Gly Ser Ser Ser Asp Arg Thr Arg Thr Ser  
1 5 10



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Application No.: **09/ 509738**

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING  
NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☐ 7. Other: the specification and the claims do not have sequence identification numbers at each sequence as required by 37 CFR 1,821(d).

**Applicant Must Provide:**

- ☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☒ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

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For CRF Submission Help, call (703) 308-4212

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